Magnetism

2-5 The student will demonstrate an understanding of force and motion by applying the properties of magnetism. (Physical Science)

2-5.2 Explain how the poles of magnets affect each other (that is, they attract and repel one another).

Taxonomy level: 2.7-B Understand Conceptual Knowledge

Previous/Future knowledge: In kindergarten (K-5.1), students classified objects observable properties including magnetic attraction. This concept will be further developed in 4th grade (4-5.9) when they summarize the properties of magnets and electromagnets (including polarity, attraction/repulsion, and strength).

It is essential for students to know that a magnet has two poles; one on each end.

- These poles are called the North pole (N) or the South pole (S).
- If the poles that are alike (North to North or South to South) are put together, they repel or push away.
- If the poles that are different (North to South or South to North) are put together, they attract or stick together.
- Some magnets, for example ring magnets, do not have the (N) or the (S) marked on them but they do have two poles that are either located on the top or bottom of the magnet.
- The poles can be determined by placing the magnets together.
- If they stay together then the poles are opposite but if they push away from each other the poles are alike.

It is not essential for students to learn about electromagnets at this grade level.

Assessment Guidelines:

The objective of this indicator is to *explain* the effects magnets have on each other; therefore, the primary focus of assessment should be to construct a cause-and-effect model of the effects magnets have on each other. However, appropriate assessments should also require students to *recall* that magnets have two poles and opposite poles attract where like poles repel.